MIDI Converter
Ver.-1.30

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Introduction

The Midi Converter converts standard MIDI files, prepared using Tone Editor 32X, into 32X Sound Simulator data files according to the data format for SUPER 32X sound software. There are three types of Midi Converter.

- Midi2Bin32X

This package converts a given standard MIDI file into a binary file for use with the BGM.

- SeConv32X

This package converts a given standard MIDI file into a sequence data for use with the SE.

- Midi2Txt32X

This package converts a given standard MIDI file into a sequence data for use with the BGM.

You can use Midi2Txt32X for editing data as text. For details on this data format, see the '68000 Sound Driver Manual'.

1. Midi2Bin32X

Conversion Procedures

: <Creating BGM data>

As a first step, create a standard MIDI file for the BGM.
Create the data that can be properly played using the Tone Edition. Save the data in the standard MIDI file format.
Save standard MIDI files at Format 1.
Use the following band tracks for the sequencer, leaving unused channels as vacant tracks.

Track 1	PCM0
Track 2	PCM1
Track 3	FM0
Track 4	FM1
Track 5	FM2
Track 6	FM3
Track 7	FM4
Track 8	FM5
Track 9	PSG0
Track 10	PSG1
Track 11	PSG2
Track 12	PSG NOISE
Track 13	PWM0
Track 14	PWM1

(A temporary track is automatically created before Track 1.)

Allocate a PCM track for each PCM channel used. Delete any unused tracks. If PCM is not used, Track 1 becomes BM1
Note: When using an FM Edition KIT, be sure to use an FMn track
Note: Be sure to observe enough tracks for the data to be created.
Note: Be sure to observe the continuous notes given below.

- Setting a loop

To set a loop, use a control change.

	Control Number	
Beginning of a loop	84	84
End of a loop	84	65

- Setting the Qsound

Use a control change to specify the on/off actions for the Qsound.

	Control Number	
Qsound on	28	A value from 0 through 63
Qsound off	28	A value from 64 through 127

Note: Using the Qsound requires a separate sub license agreement and a sound driver specific for the Qsound.
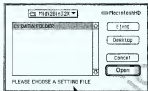
- Qsound data using the Tone Editor TD3

As the next step, use the Tone Editor TD3 to create a MIDI setting file. To create this file, complete the MIDI setting process using the Tone Editor TD3 and save the results. When using a velocity table, create a file for the table. The table value should be 64 or less.

When a velocity table is used, a maximum velocity value of 127 can be allowed in the sequencer. For other velocity types, however, the maximum allowable velocity value in the sequencer is 64. Per details on the MIDI setting and velocity tables, see the Tone Editor TD3 Manual.

- Conversion
Double-click on MIDI2SMOD. Perform the conversion process by following the guidance information that is displayed on the screen.

- Selecting a file

PLEASE CHOOSE A SETTING FILE

Select the desired file according to the executed instruction.

- Selecting a sequencer

When creating a simulated MIDI file, specify whether Notator LOGIC or another sequencer is used (see 'Creating BGM Data').

- Specifying the number of PCM channels

PCM CHANNEL
○ None
○ Mono
○ Poly

[O K]

Specify the number of PCM channels in which PCM will be used.

None ... None
Mono ... One channel
Poly ... Two channels

Note that varying the number of PCM channels changes the way in which
sequence tracks are used.

- Selecting a data file

Do you use a DATA FILE ?

[YES]   [NO]

YES ... Add the following for each piece of music:
FM timbre data
Table mission data
FM vibrato data
FM drum kit data

NO ... Use one file for each type of data.

Normally, select the 'NO' option.

* When using the System Exclusive, save the MIDI channel for all tracks
for the sequencer by setting the MIDI channel to 1 (thus creating a standard MIDI

file) If this condition is not met, the System Exclusive separates into another track and prevents the converter from working properly

* When using the Yieon, use another sequencer to create a standard MIDI file If standard order data and program changes exist at the same time, the musical scale data always floats to the top, and the cause data time to be 0

* When using Kutetar LOGIC, be sure that a blank space (to be distinguished from the pause tone [KYULFU - UNKNOWN TERM - "PAUSE NOTE"] IS AN UNEDUCATED GUESS] is not inserted in the beginning of the score When the standard MIDI file is converted, the track in which a blank space occurs is automatically moved to the beginning of the measure Be sure that there are no empty tracks If there is an empty tracks, use either a program change or a control change to insert dummy data in those tracks If a track is a completely empty, the track cannot be ignored when a standard MIDI file (SMF) is saved, thus causing the track setting to be misaligned.

* The Midi Converter does not support the following Control Change for the Tone Editor 32X
   - Hard LFO

* The Midi Converter does not support the following System Exclusive for the Tone Editor 32X
   - Sound effect mode setting
   - Direct manipulation of FM sound sources
   - Detuning specification in units of fragments

* Control changes are described in the section on "MIDI Data Format Tables"

2. SeConv32X

Conversion Procedures

1. <Creating SE data>

As a first step, create a standard MIDI file for the SE.
Create the data that can be properly played using the Tone Editor. Save the
data in the standard MIDI file format.
Save standard MIDI files in Format 1.
The sequencer allocates tracks for the number of channels to be used. In
contrast to the RCM processing, the sequencer does not used fixed channels
(do not allocate excess tracks).

2. <Creating data using the Tone Editor 32X>

As the next step, use the Tone Editor 32X to create a MIDI setting file, as in the
case of MultiBin32X.

3. <Conversion>

The SeConv32X conversion procedure largely parallels the MultiBin32X
conversion procedure. The following describes only those parts of the
conversion procedure that differ from the MultiBin32X conversion
procedure.

- Setting the channel to be used

Select the channel to be allocated, together with track 1 of the sequencer.
The dialog box disappears when the required number of tracks has been
selected.

Determining the priority

next priority

    250

    OK

On this dialog box, select the priority for the sound effect. Priority is specified using a decimal number 0 through 255. The larger the value, the higher the priority

Note:
See the notes on MIXDEFINIDX

3. Midi2Tx132X

Conversion Procedures

1. <Creating PCM data>
   As in the case of Midi2Bin32X, create a standard MIDI file. The number of tracks should not be changed according to the number of PCM channels used.

2. <Creating data using the Tone Editor 32X>
   Create data as in the case of Midi2Bin32X.

3. <Conversion>
   1. Double-click on Midi2Tx132X.
   2. When a dialog box appears, select the sequencer in which a standard MIDI file was created.
   3. When using the MIDI setting file for the Tone Editor 32X, check the "User Preferences" item in the "Setting" menu bar.
   4. Select the desired file according to the instructions given in the dialog box. See the section on <Midi2Bin32X>.
   5. The application terminates when all the conversion tasks have been completed.

   Note:
   See the notes on Midi2Bin32X.

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MIDI Data Format Tables

The MIDI data files processed by the MIDI converter are inherited from the Tone Editor 32X. Thus, judicious control of MIDI on the Tone Editor 32X can improve sound quality. The following describes the control changes and the MIDI formats that can be manipulated using the Tone Editor 32X and that can be beneficial to the production of a sound program using a sequencer.

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MIDI Messages

Message	Function	Comment
80n Snn Snn	0: Note off	Note off velocity ignored
90n Snn Snn	0: Note on	Velocity 0: note off
A0n Snn Snn	X: Polyphonic key pressure	
B0n Snn Snn	0: Control change	See table
C0n Snn Snn	0: Program change	Only FM/PSG is valid
D0n Snn Snn	X: Channel pressure	
E0n Snn Snn	0: Wheel change	Only FM/PSG is valid
SF0 ... SF7	0: System Exclusive	See Table
SF1 - SF6	X: System message	
SF8 - SFF	X: System realtime message	

- The Time Editor SIX always operates in the unicord and polyphonic modes.

Control Change

Message	Function	
Bn 00h 0ss	Bank select	ex: 0PP=000..00F (Bank)...0..7F
Bn 01h 0ss	Modulation depth	Transparent to on/off
Bn 05h 0ss	Channel volume	
Bn 06h 0ss	Data entry(MSB)	For an FM sound source – $00=00...FF$ nn: $00=000...7F$ sym, EG8 else same
Bn 07h 0ss	Transpose (Cent/MSB)	Halftone value (0×XX)
Bn 0Ah 0ss	Panpot (panorama)	Does not set address on/off
Bn 0Bh 0ss	Specifies the FM sound source LFO speed	ss: $000...07F$
Bn 0Ch 0ss	Specifies the amount of the LFO AMD	Value is the level of ×: the AMD of the operator for the ...
Bn 0Dh 0ss	Specifies the FM sound source hard LFO AMD	ss: $000...07F$
Bn 0Eh 0ss	Specifies the FM sound source hard LFO PMD	ss: $000...07F$
Bn 0Fh 0ss	Specifies the FM sound source LFO ON/OFF	$00=0...07F$=ON
Bn 10h 0ss	Specifies the amount of the LFO PMD	Value is the PMD of the operator for the ...
Bn 11h 0ss	Specifies the FM sound source LFO PMD	$00=0...03F=31F$
Bn 12h 0ss	Tr#g setting	When the Gate...
Bn 50h 0ss	P/S/G mute mode setting	ex: $000=0...03F$
Bn 51h 0ss	Attack rate	ss: $00=0...07F$=0A...3F
Bn 54h 0ss	Portamento on/off	ss: $00=0...00=07F$=ON
Bn 55h 0ss	Data entry	
Bn 58h 0ss	Detune?	
Bn 5Bh 0ss	...	

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System Exclusive

Auto-panning

This is a MS 280 Ver. 2.0x-style auto-panning. For details, see the Driver description.


```
Sum: MIDI Channel-1
Sp0: Pan Number
Sp1: Table Number
Sp2: Start Point
Sp3: Point Limit
Sp4: Length Counter
```

If Sp0=0, there should not be any conflict in the values Sp1 through Sp4.

Setting a sound-effect mode

This is a SDX Ver. 2.0x-style sound-effect mode. The following 7 numbers are assigned to operators.

```
Operator 1 FNumber = $b0 + 128 = $130
Operator 2 FNumber = $c0 + 128 = $140
Operator 3 FNumber = $d0 + 128 = $150
Operator 4 FNumber = $e0 + 128 = $160
```

If $b0 - $eb - $eb/$ff $13 are all zero, the sound-effect mode automatically turns off. If there is any conflict value, the sound-effect mode automatically turns on.

Direct manipulation of the FM sound source

This is Character directly writes into an FM sound source. The efficiency with the driver is not guaranteed. This option can be used only under special circumstances.

```
Sss:  Target address.  When either 0 or 2, the address indicates $4000
      or $4003, respectively, on 280 address.
Sch:  Register number, high nibble
```

$b0$	Register number, low nibble
$b0b$	Write data, low nibble
$b0b$	Write data, high nibble

FVR

$b31b30b29$	$b28b27b26b25b24$	$b23b22b21b20$	$b19b18b17b16$	$b15b14b13b12$	$b11b10b9b8$	$b7b6b5b4$	$b3b2b1b0$
0F0	1D0	C0	B0	A0	S0	D0	R0

This is a 32X Ver. 3.0-style FVR. For details, see the Driver Manual.

$b31b30b29b28$	$b27b26b25b24$	$b23b22b21b20$	$b19b18b17b16$	$b15b14b13b12$	$b11b10b9b8$	$b7b6b5b4$	$b3b2b1b0$
0F0							

$b0$	Status, high nibble
$b0b$	Delay, low nibble
$b0b$	Delay, high nibble
$b0b$	Stay, high nibble
$b0b$	Stay, low nibble
$b0b$	Signed address data, high nibble
$b0b$	Signed address data, low nibble
$b0b$	Limit, high nibble
$b0b$	Limit, low nibble

When both bit set are zero, the FVR automatically turns off. If there is any non-zero value, the FVR automatically turns on.

SSG-type envelope

$b31b30b29b28$	$b27b26b25b24$	$b23b22b21b20$	$b19b18b17b16$	$b15b14b13b12$	$b11b10b9b8$	$b7b6b5b4$	$b3b2b1b0$
0F0							

This parameter sets an SSG-type envelope for an FM sound source.

$b0$	MIDI Channel 1
$b0b$	Sets Operator 1
$b0b$	Sets Operator 2
$b0b$	Sets Operator 3
$b0b$	Sets Operator 4

The value to be set is either 00 or 08-$0F$. If the value is 00, the SSG-type envelope is off. Otherwise, the indicated SSG-type envelope is set.

Detuning specification in division ratio units

$b31b30b29b28$	$b27b26b25b24$	$b23b22b21b20$	$b19b18b17b16$	$b15b14b13b12$	$b11b10b9b8$	$b7b6b5b4$	$b3b2b1b0$
0F0							

The parameter assigns a detuning value in division ratio units to either an FM sound source or a PSC sound source.

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Item: MIDI Channel -1
Detuning value = (kor*128 + ry) - 32000

FM sound source wow

When the bit N of $80s$ is 1, the See-th table envelope is applied to the operator $N+1$

Item: MIDI Channel -1

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